

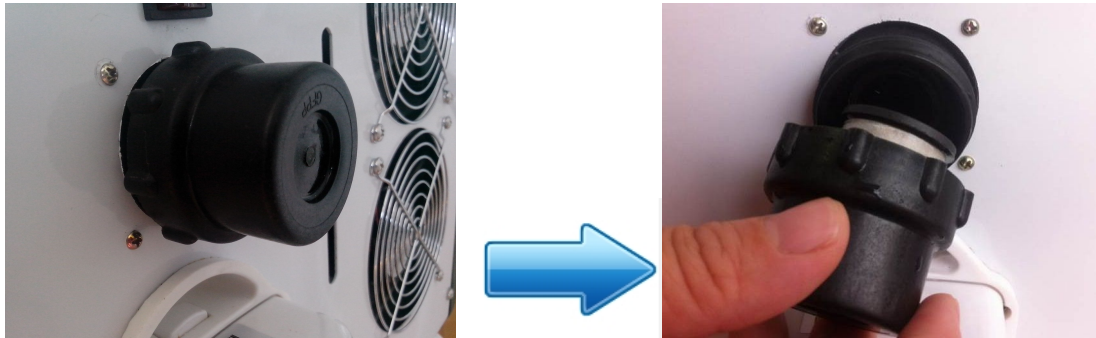
808nm Diode Laser Hair Removal User Guide

Model:HR-F16



PLEASE NOTICE

Notices about Usage of 808nm Diode Laser Hair Removal Machine



The black FILTER is for filter the impurities in the water, it helps extends life time of handpiece.

1. Before immit water, please must screw off the Black filter first.
2. Immit water until water tank is full, then close the Black filter.
3. Test machine
4. When you change all water, please also use distilled water and soft brush to clean the BLACK FILTER and flush it with several times with distilled water.
5. Must immit DISTILLED WATER. Change all water 1time/month.
6. Please start to adjust parameters and treat patients immediately after the laser be turned on, it is not allowed to keep it in “Standby” status for long time; If not use machine, turn off machine will extend life time of handpiece.

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Chapter 1 Notice

1. Please read and understand the user guide before operating the machine,
2. Operator must have the training of laser safety,
3. Operator should pay attention to eye protection for patients and himself,
4. These patients who are sensitive to laser, scar physique, drug dependent, such as hear disease, diabetes, cancer, epilepsy patients, are prohibited,
5. Operator should obey this user guide, or injuries may be caused,
6. Maintenance, repair of the machine must be authorized in writing by the company or the company maintenance personnel.

Chapter 2 Safety Precautions

2.1 Laser Safety

- 2.1.1 Diode high peak-power laser light spectrum range is $808\text{nm} \pm 5\text{ nm}$. The laser window locates at front-end optical ports of the hand piece. Please keep it away from the laser radiation emitted from this window.
- 2.1.2. Never look directly into the front of the hand piece. Never look directly at laser or reflected beams even when wearing goggles.
- 2.1.3. Flammable, explosive items such as alcohol, ether, oxygen and light decomposition such as drug products should be far away peak-power laser light radiation.
- 2.1.4. Wrist watch, necklace, bracelets and other metal jewelry reflecting light are forbidden to wear during treatment.
- 2.1.5. Operator should provide strict and effective eye protection (gauze, eye patch etc.) for patients.
- 2.1.6. Except the treated parts, peak-power laser beam is forbidden to illuminate other body parts. During and after treatment, front-end optical ports of the hand piece must point to the ground or a safe place.
- 2.1.7. The absorption of different body parts and thickness and color is different. And the bear on laser varies. The energy required during treatment should be adjusted from smallest to largest selection

2.2 Eye Protection

- 2.2.1 Diode high peak-power laser beams are particularly hazardous to the eye. Laser beams directly entering eyes in short distance would cause vitreous body and retina injured,
- 2.2.2 The Operator shall instruct all personnel in the Controlled Area to wear goggles whose protective band is for $400\text{-}1200\text{nm}$, $\text{OD} \geq 4$. If choosing protective glasses himself, patient should pay attention to wavelength range and optical density. Selected protective glasses wears comfortable, vision broad, ventilation and closed both frame and edge should have protection with the same lens, do not use can hinder specular reflection of plane reflection lens.
- 2.2.3 Protective glasses can only reduce damage to the eyes, can not totally

prevent direct laser beam and reflected laser beam by glasses, mirror and smooth metal surface. So never look at direct laser beam or reflected laser beam even though with protective glasses.

2.2.4 Covering gauze and wearing eye patch etc. can play protective effect on patients' eyes.

2.3 Electrical Safety

2.3.1 The power supply connected to Laser must have a single phase three wires power socket that meets international standards, being well earthed in accordance with the electrical safety regulations in force, and having a specification of 10A or higher.

2.3.2 Before running the machine, please ensure hand piece and other components are connected with the machine well. During treatment, never remove the components, including hand piece. After laser stops running, pay attention to that opening the cover of the casing may cause a high voltage electric shock.

2.4 System Device Safety

2.4.1 Water current device: when laser emits, there is high density heat in the hand piece. So it requires constant cooling water conduction cooling. The machine is designed that it will alarm and no laser emitting when the water current is poor or the flow is higher, lower than the set range.

2.4.2 Water level device: when laser emits, there is high density heat in the hand piece. So it requires constant cooling water conduction cooling. The machine is designed that it will alarm and no laser emitting when the flow is lower, not enough water to ensure to normal water circulation.

2.4.3 Water temperature device: When water temperature is higher than set temperature, machine will alarm and no laser emitting. Generally speaking, cooling system in the machine will avoid the phenomenon.

2.4.4 Emergency Button: Press the red emergency button to shut machine down and cut power supply immediately. Pull button out to restore power.

2.4.5 The Key Switch: Use the key to turn power on or off. Remove key and keep safe when not in use.

2.4.6 Hand piece key and pedal switch: When the machine and working system of the machine is normal, the hand piece key and pedal switch work at the same time, then there will be laser emitting, which is much safer.

Chapter 3 Introduction of Diode Hair Removal Laser

3.1 Device Structure

3.1.1 Treatment using Sapphire Light crystals, never worn, whole life without replacement.

3.1.2 Powerful semiconductor cooling, air cooling and water cooling can ensure longer condition working time. Water cycle & water temperature checking

system and strongly heat abstractor extend service life and safety of the machine.

3.1.3 Short treatment time, regeneration fast, no effect for work.

3.2 Application

Hair removal: remove extra hair of body parts, such as the armpit hair, beard and lip hair, hair, bikini line, limb body hair effectively. It also reduces pigmentation, Telangiectasia, deep color of moles, spiders to the grain, wine red birthmarks and other symptoms.

Chapter 4 Working Conditions

4.1 Environment temperature: 5~40℃

4.2 Relative humidity: ≤80%

4.3 Power supply: a single phase AVC 220V、110V ± 10% 10A 50/60Hz.

The power supply connected to Laser must have a single phase three wires power socket that meets international standards, connections for power.

4.4 The power should be well earthed in accordance with the electrical safety regulations in force.

4.5 The machine adaptation voltage range is 200 - 240V/100--120V. If the used power is beyond the range, voltage regulator, whose power is higher than 3KVA, is suggested.

Chapter 5 Installation and debugging

Procedure for Injecting Cooling Water

Only use distilled water in this device, DO NOT use tap or bottled drinking water

Step 1: Take off the screw cap of the Overflow Hole, place a bucket or bowl underneath this outlet.

Step 2: Connect soft end of water pipe to funnel

Step 3: Remove plug and insert the hard end of water pipe into Immit Water Hole.

Step 4: Carefully pour cooling water into the funnel - Lift the funnel higher than the equipment in order to inject water easily.

Step 5: When water comes out from the Overflow Hole, Which means the water injection is finished and water tank in the equipment is full of water.

Step 6: Push the blue plastic ring on the Immit Water Hole, and then take the water pipe off.

Step 7: Replace Overflow Hole screw cap. The water injection is finished.

Step 8: Check for any internal or external leaks, clean up any water spillage.

How to Connect the Detachable Hand Piece

- Step 1.** The socket on the front of the device
- Step 2.** Remove both screw plugs
- Step 3.** The plug on the hand piece tube
- Step 4.** Insert hand piece plug into device socket at right angle
- Step 5.** Connect hand piece plug to socket
- Step 6.** Screw the connectors tightly

Notes:

1. The machine must be powered off when inserting or removing the handle.
2. Check for any internal or external leaks of the handle, clean up any water spillage.
3. The water must be empty during the long-term stop using or long-distance transportation

Change water: We advice the machine should change distilled water in one month after using.

4. After Loosing the handle button, making sure there is no laser output. Then operators can put the handle into the shelf.

Chapter 6 Technical Specifications

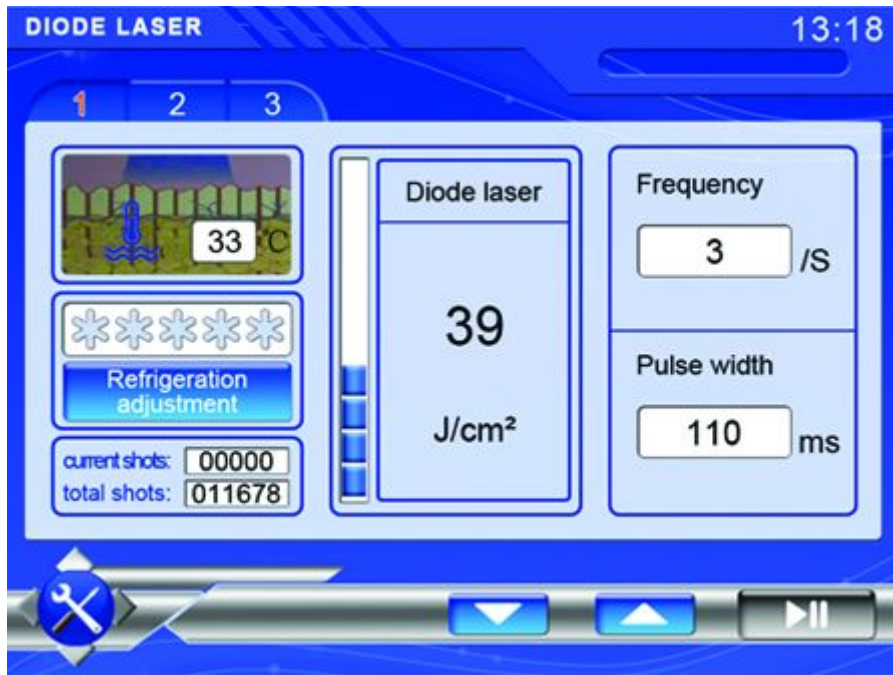
Wavelength :	808nm±5 nm Semiconductor Laser Beam Source
Energy Density :	1-100J/cm ²
Spot Size:	14x12mm ²
Frequency :	1-10 Hz
Pulse width:	10 ms -400 ms
Voltage	AC 220V±10% 50Hz, AC 110V±10% 60Hz
Dimension:	640mm×490mm×510mm (LxWxH)
Net weight:	28kg

Chapter 7 Operation

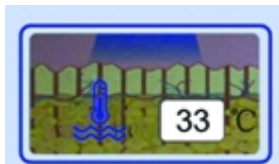
7.1 The Starting interface:

Click LOGO to enter operating interface

2. Click item 1 to choose the Diode Laser treatment interface:



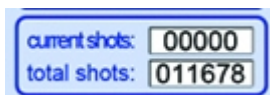
Setting memory. 1 for skin type I, II; 2 for III, IV. 3 for skin type V, VI



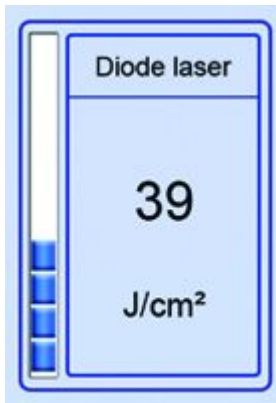
Water Temperature display.



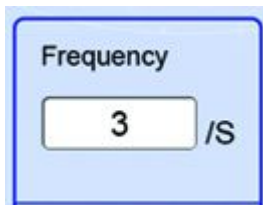
Refrigeration controlling. Choose 2 to 4.



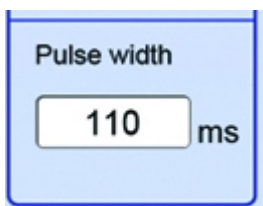
Current shots and total shots display



Diode laser energy Adjustment



Frequency adjustment



Pulse width adjustment



Settings



Parameters decrease and increase button



Click this button handpiece is ready for shoot

7.2 Parameter adjusting:

Press the number, which need to be adjusted. It has been chosen when the number turned red. Now you can press the plus or minus button to adjust.

- (1). "Diode Laser Energy": to adjust the output energy intensity of the laser device.
- (2). "Pulse Width": to adjust the pulse time, which emitting from every laser.
- (3). "Frequency": to adjust the times of shots in a second;
- (4). "Cooling": to adjust the surface cooling system of the handle.

(5). “Ready”: After adjusting parameters, click this button, the system goes into the working state.

(6). The biggest pulse width is 400ms, frequency is 10HZ, output energy is 100 J/cm². The system will bring out the energy range and pulse width while choosing the skin type. The machine is intelligent, which can accord different people choose different skin type and adjust the suitable energy and pulse width. Skin type VI can automatically set the parameters.

Working mode:

Display the current controlling state: skin type, pulse width, energy, temperature. The working mode will renew the current controlling parameters after every parameter update operate.

7.3 Treatment parameters adjusting

Treatment parameter means the data which you can change; we can change the output energy, pulse width and the number of the pulse of the light head to reach the different treatment effect.

Entered into the parameter adjusting window, press the  or  key to adjust the energy level (light strength). We advise you to adjust the energy from low to high.

Pulse width: Press the  or  keys to adjust pulse width. While finished adjusting the parameters, press the handle button to output laser. The adjusting extension of pulse width is from 10 – 400 ms.

Energy: to adjust the output energy of the light head. The adjusting extension is from 1 to 100 J/cm². It can be changed during your treatment through clicking

 or  ,  means up while  means down. To hold  or  can increase or decrease energy rapidly.

7.4 The wavelength of treatment tip

The machine is mainly used for hair removal; the output device is semiconductor laser. The laser offering wavelength: 808 nm.

7.5 Treating

Click  , the machine goes into the preparation working state. At the same time the key turns into  . It can now work if you press handle button. Along with the output laser, laser indicators will flash and single buzzing. While treating, the system will control the temperature of header automatically to let it cooling to a certain extent. The system will stop outputting laser energy automatically if there was an emergency instruction. To shut down when necessary and consulting our after-service.

7.6 Power off

1. Remove the hand piece away from the treatment area to stop treating.
2. Click  –the machine in the standby mode.
3. Place hand piece securely into holder.
4. Turn key counter clockwise and remove to prevent unauthorised use.
5. Switch off power supply.

7.7 Clean the sapphire

Before and after every operation, use gauze or swab dipped in 75% medical alcohol to wipe the sapphire surface 3-5 times.

Emergency switch: When the operation encounters emergency, press the red emergency switch to shut down the machine. Lift the emergency switch clockwise, the machine can return to normal.

Practice method:

- A. To avoid proficiency restrictions, operators can first test for a small treatment area, then operate on large area.
- B. Operators can test between newspaper or dark papers. Adopt the method, from left to right, up to down or choose familiar technique to training. Every affected part should be treated 1-2 times (according to the sufferer's extent). Untrained or unqualified operating persons are not permitted to operate the laser treatment systems under any circumstances.

Chapter 8 Notices before operation:

Appliance preparation: napkin, eye area (for operators and patients), cold injection machine or ice bag, sunscreen cream.

Operation procedure:

- A. Clean the treatment area
- B. Cleanly shave off the hair on treatment part (such as: women's beard and hair on the temples)
- C. Exfoliation (except thin skin)
- D. After adjustment, have an experiment on normal skin to see whether there is change and ask for the patient's feelings; Build the data for the clients about the therapy.
- E. Choose the skin type.
- F. Shooting the light two times every time after adjusting the energy.
- G. Treating
- H. Cold spray or a cold compress
- I. Smear the sunscreen cream

Parts can be treated:

- a. Parts need to be treated;

- b. Neck、chest、arm、armpit.
 - c. The serious parts which can be scanned twice.
- Requirement: The temperature of sapphire tip need to reach 5℃。

Chapter 9 Notices during the treatment

- a. Make sure the safety of the sufferer. Sufferer's eyes need to be closed.
- b. The header should slightly touch skin when operating. Don't extrude the skin to avoid burn.
- c. Don't see the light directly even you wear the protection glasses.
- d. Choose reasonable technical parameters. Operators should clearly notice the dangerous of intensive light to skin. Have an experiment after the ear's skin before treating. Observing the phenomenon after 20 minutes. It should be lower the energy if the skin appears obvious red.
- e. Handpiece must be handled with care. Make sure it is on the shelf after use.

Chapter 10 Nursing after treatment

- a. Cold spray or a cold compress. Use ice bag to cold compress for 20 minutes and smear the aloe vera gel to remit the reflection.
- b. Use cold water to wash face in 3-7 days. Don't scratch the skin even if there is scab.
- c. Pay attention to prevent sunstroke. Smear the sunscreen cream which SPF is above 30.
- d. Don't eat the stimulus thing and pigmentary food, such as celery, spinach, parsley, white turnip.
- e. Don't use the efficiency cosmetics in two months.

Remand: the general principles to follow

During operation, energy should be adjusted from low to high. High energy brings good effect, however, it must be in patients' endurance. Operators should observe the reflection of skin to adjust energy anytime.

Best treatment effects of the lesion

After operation, the face appears light red. The lesion feels hotness and sting, while the root of hair has a red spot. The symptoms can be relieved after cold spray or cold compress. At the same time, Scabbing and the color spot becomes deeper

routinely occur following treatment.

Guide for examining the malfunction

1. No display after electrify. Reasons: If the power supply has electricity and the attaching plugs are securely inserted both ends and socket is switched on. Check key is in correct position. Check the red emergency button is released. Insert the power plug is ok.
2. There is no laser output when you kick the working button. Reasons: a. The button not response, should replace new button. b. Water tank is not full, should immit distilled water until it's full; c. The handpiece reach it's life time, should replace new handpiece;
3. The machine leaks water. Reasons: The water pipe connector appears leakage because of the strong shake in the transportation. Please contact the manufacturer or distributor immediately.
4. The energy becomes weak and the treatment result is not good. Reasons: The laser gun is burnt down while using. You should change the laser gun or contact the manufacturer or distributor immediately. Or the parameters are not adjusted correctly.

After service

Dear users:

Thanks for choosing the beauty machines from Beijing Shijizhengfang Science & Developed Company. We'll try our best to give you the greatest after service. According to our company's situation and clients' requirements, We make and implement the following commitment to let you enjoy the speediness and satisfied service. All our company sold machines will get one year warranty and lifetime free technical support since the date of contact signing.

Technology consulting and maintenance contact

We supply free technical training:

- A. The working and treatment principle of the machine.
 - B. Operation procedure
 - C. Common malfunction recognition. Don't charge any other costs.
- Please contact our After-service department if you had any operation problems or machine didn't functioning.

Warranty description:

The operation procedure and environment standard must be carried out by the product's rules.

Malfunctions caused by following factors are out of warranty.

- a. Not following the operation procedures.
- b. Self-actuated mobile, remove, collision and other man-made fault.
- c. Energy weakens caused by wet and dust.
- d. The laser device was damaged by inject impurity water, or don't inject purity water.
- e. Irresistible natural factors

f. The equipped parts、 attachments and consumables is besides.

Packing List

Item	Specification	Qty
Detachable Hand Piece		1
Protecting glasses		1
Key		2
Water pipe		1
Funnel		1
Power line		1

Setting parameters for diode laser

SETTING PARAMETERS FOR DIODE LASER

Skin Type	Energy J/cm2	Pulse width	Frequency	Cooling Grade	SCAN TIMES	TREATMENT TIMES
I & II White skin	30~80	60~200	2-4	3~4	Back and forth2~4	2~4
III & IV Brown skin	30~60	60~200	2~4	3~4	Back and forth2~4	2~5
V & VI Dark skin	20~50	70~200	2~4	3~5	Back and forth2~4	3~5

Please note: Frequency × Pulse width ≤ 400

For dark skin, apply cooling gel on treatment area is more comfortable.